

Diabetes in Pregnancy management reduces Perinatal, Neonatal Mortality as a Large Prospective Cohort study From, India

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WHO Observations and Recommendations- 2014

For a pregnant woman, the request to attend fasting for a blood test may not be realistic because of the long travel distance to the clinic in many parts of the world, and increased tendency to nausea in the fasting state.

Consequently nonfasting testing may be the only practical option.

Stephen Colagiuri, Maicon Falavigna, Mukesh M. Agarwal, Michel Boulvain, Edward Coetzee, Moshe Hod, Sara Meltzer, Boyd Metzger, Yasue Omori, Ingvars Rasa, Maria Inês, Veerasamy Seshiah, David Simmons, Eugene Sobngwi, Maria Regina Torloni, Hui-xia Yang. DRCP. 103 (2014) 364-372 Ref - WHO/NMH/MND/13.2

2 hour value after 75g OGTT in fasting or non fasting state.
Value > 140 is GDM

The International Federation of Gynecology and Obstetrics (FIGO) Initiative on Gestational Diabetes Mellitus: A Pragmatic Guide for Diagnosis, Management, and Care Moshe Hod, Anil Kapur, David A. Sacks, Eran Hadar, Mukesh Ammar al, Ginn Carlo Di Renzo. Luis Cabero Roura, Harold David McIntyre, Jessica L. Morris, Hema Divakar

All pregnant women attending health facilities will be tested for hyperglycemia using a single-step procedure, as advocated by FIGO¹⁰ IDF¹⁰ and WHO.²⁰

Chittaranjan N Purandare(FIGO), Shaikat Sadikot(IDF) congress IDF Abu Dhabi

6th December 2017

Background

Abstract Background: Gestational diabetes mellitus (GDM) is a glucose intolerance that occurs or is identified for the first time all through pregnancy. Perinatal & Neonatal morbidity mortality is significant in pregnant women in GDM with extra hazard of growing diabetes later in life. Uttar Pradesh is a largest state of India with one of the highest rate of the infant as well as maternal mortality which might be, at least partially due to GDM. Thus, Careful evaluation, administration & Training of HCPs for GDM can improve the outcomes in National health Mission Govt funded Program

Aims

Primary objective of this study to be determine the Maternal-Fetal outcomes of GDM and management of Hyperglycemia in Pregnancy HIP reduces Neonatal & Perinatal Mortality as per the NHM, GOI Guidelines for GDM. As this will go long way help us in reduction of Perinatal & infant mortality. Thus, this study was once undertaken to recognize the extent of the burden on the healthcare and formulating further policy for Implementation of Gestational Diabetes Program in the largest state of Uttar Pradesh, India

Method

A prospective cohort study was done for 30 months from October 1, 2016, to March, 2019, at 828 GDM screening units as a part of the Gestational Diabetes Prevention and Control Project, Uttar Pradesh approved by the Indian Government in the state of Uttar Pradesh, India, largest state with second Highest MMR & IMR, A total of 515,532 pregnant women were screened during their 16-32th weeks of pregnancy by impaired oral glucose test (OGTT) as per NHM Guidelines for GDM, 22844 GDM & 27290 Non GDM, Fetal and perinatal outcomes were followed up in both GDM and non GDM categories in the 30 months after blood sugar management was executed at 828 (DHs, CHCs & PHCs healthcare) facilities. Universal Test with 75 gm glucose load 2 hour- post glucose cut off 140 mg/dl & above was used Criteria for GDM Diagnosis.

Results

Perinatal mortality increased significantly from 3.49% to 12.1% when blood sugar levels increased from 120 mg/dl to >200 mg/dl. Perinatal mortality in GDM cases were significantly to the control of blood sugar levels (P < 0.0001). Relative Risk of Stillbirth, neonatal mortality & Perinatal mortality have been respectively 2.63, 3.14 & 2.74 times greater in GDM compare to Non GDM (Table 1). It was also found in our study those GDM who were strictly controlled with Hyperglycemia in pregnancy (HIP) to <120 mg/dl perinatal mortality was 2.3%. 62763 pregnant women were detected GDM with prevalence rate of 12.2%.

Discussion

All the Pregnant women need screening in Public health facilities & Implementation of National health Mission, Govt of India Guidelines for GDM has to be followed to improve outcome for Mother and Newborn. As the lack of information about GDM among-st pregnant women is high, to decrease the risk, increase awareness & full Implementation of NHM GDM Guidelines is key to Perinatal and neonatal mortality reduction in Public health care facilities where large number of ANC visit for Maternal and fetal health care.

Table No:- 01
Fetal outcomes in Gestational diabetes mellitus(N=22844) versus Non GDM[N=27290]

Outcomes in neonate	GDM Present (n=22844) No (%)	GDM Not-Present (n=27290) No (%)	RR	p = value
Stillbirth	728 (3.18)	330 (1.21)	2.63	< 0.0001
Neonatal death	345 (1.51)	131 (0.48)	3.14	< 0.0001
Perinatal Mortality	1073 (4.69)	461 (1.71)	2.74	< 0.0001

Table No: 02
Prevalence of Perinatal Mortality Cases as a function of Management of blood sugar Levels of GDM Cases in (mg/dl) value

Profile of Blood Sugar Levels in GDM Cases	No. of Samples (N=515532)	Perinatal Mortality Cases (n = 14169) No (%)
<100	n1=113040	2598 (2.29%)
100-119	n2=279675	6460 (2.31%)
120-139	n3=52348	1832(3.49%)
140-159	n4=35235	1567 (4.45%)
160-179	n5=13659	784(5.74%)
180-199	n6=8560	771 (9.0%)
200 and >200	n7=13015	1571(12.07%)

Table No : 03
Future Diabetes in women with GDM with Blood Glucose Levels Control in Pregnancy & other outcome

	Post-Partum Type if diabetes in GDM control range 140 mg% to <160 mg/dl in GDM cases (n=8249).	Post-Partum Type if diabetes in GDM uncontrolled range >160 mg% to 200 mg/dl in GDM cases (n=8249).	RR,
Future Type if Diabetes in GDM women (Post-Partum Diabetes)	1319 (15.9%)	2969 (36%)	0.44, P<0.0001
Family H/O DM +	651 (7.9%)	1559 (18.9%)	0.41, P<0.0001
LBW Birth Wt <2.5 kg	822 (9.9%)	1814 (21.9%)	0.45, P<0.0001
Macrosomia birth Wt>3.5 kg	593 (7.2%)	1361 (16.5)	0.43, P<0.0001